

```

Db      61  ENTVNEIRNSYTHWLSAERILVADKIITEERKHRVQEILEGRYTDNRPKRKFDPAEI 120
Qy      112 KPELIEFVQAVYGGLPASREVDRPPKFKEGDWWVFSTASPKGHARRARYVRGKTGVVK 171
      : : || :: || : | | | : : | : | : | : | : |
Db      121 E-KAIERLHEPHSLALPGAEE----PSFLGDKGVKVMNPLGHTCRPKYVRNKIGEIVT 174
Qy      172 HHGAYIYPTDAGNLGECPEHLTYVRFTAQELWGPEGDPNSSVYYDCWPEYI 223
      : : || :: || : | | | : | : | : | : | : | : |
Db      175 SHGCIQYPESSAGLGDPRPLTYVAFSAQELWGDGNGKGVVCDLWPEYL 226

```

#### RESULT 4

S19713  
nitrile hydratase (EC 4.2.1.84) beta chain, H-type - Rhodococcus rhodochrous (strain J1)  
N;Alternate names: H-nitrilase  
C;Species: Rhodococcus rhodochrous  
A;Variety: strain J1  
C;Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 09-Jul-2004  
C;Accession: S19713; S78583; S14772  
R;Kobayashi, M.; Nishiyama, M.; Nagasawa, T.; Horinouchi, S.; Beppu, T.; Yamada, H.  
Biochim. Biophys. Acta 1129, 23-33, 1991  
A;Title: Cloning, nucleotide sequence and expression in Escherichia coli of two cobalt-containing nitrile hydratase genes from Rhodococcus rhodochrous J1.  
A;Reference number: S19713; MUID:92096459; PMID:1840499  
A;Accession: S19713  
A;Molecule type: DNA  
A;Residues: 1-229 <KOB>  
A;Cross-references: UNIPROT:P21220; UNIPARC:UPI0000130030; EMBL:X64359; NID:g49057; PIDN:CAA45709.1; PID:g49058  
A;Experimental source: strain J1  
A;Accession: S78583  
A;Molecule type: protein  
A;Residues: 1-28;69-78 <KOY>  
A;Cross-references: UNIPARC:UPI0000147A98; UNIPARC:UPI0000172FF9  
R;Nagasawa, T.; Takeuchi, K.; Yamada, H.  
Eur. J. Biochem. 196, 581-589, 1991  
A;Title: Characterization of a new cobalt-containing nitrile hydratase purified from urea-induced cells of Rhodococcus rhodochrous J1.  
A;Reference number: S14771; MUID:91192028; PMID:2013281  
A;Accession: S14772  
A;Molecule type: protein  
A;Residues: 1-6,'I',8-28 <EUR>  
A;Cross-references: UNIPARC:UPI0000172FFA  
A;Experimental source: strain J1  
C;Function:  
A;Description: catalyzes the hydration of nitrile compounds to the corresponding aliphatic amides  
A;Pathway: cyanoamino acid metabolism  
C;Superfamily: nitrile hydratase, beta subunit  
C;Keywords: carbon-oxygen lyase; cobalt; hydro-lyase  
E;1-229/Product: nitrile hydratase beta chain, H-type #status experimental <MAT>

Query Match 27.2%; Score 349.5; DB 1; Length 229;  
Best Local Similarity 34.2%; Pred. No. 4.1e-24;  
Matches 79; Conservative 34; Mismatches 105; Indels 13; Gaps 3;

```

Qy      1  MNGVYDVGGTDLGIPINRADEPEVFRAWEKVAFAFMFATFRAGFMGLDEFREGIEQMNP  60
      |::|||::|||::|||::|::|||
Db      1  MDGIHDTGGMGTGYGPVYQKDEFFHYEWEGRTLSILTMHLKISWWDKSRFFRESMGN  60

Qy     61  AEY---LESPYYWHWIRTYIHGGVTRKIDLEELERRTQ----YYRENAPDLPEHEQK 112
      |::|||::|::|||::|:::|
Db     61  ENIVNVEIRNSYYTHWLSAAERILVADKIIITEERKRVQIELEGYTDKPSRKFDPAQI 120

Qy    113  PELIEFVNQAVYGGLPASREVDRPPKEKGDVRFSTASPKGHARRARYVRGKTGTVVKH 172
      :||::||::|::|::|::|::|::|::|::|
Db    121  EKAIERLHEPHSLALPGAE----PSFSLGDKIKVKSMPLGHTRCPKIVRNKIGEIVAY 175

Qy    173  HGAYIYPDTAGNLGCEPHLYTVRFAQLWLGEGDPNSSVYVYDCWEPIY  223
      ||||::||::|::|::|::|::|::|
Db    176  HGCQIYPESSAGLDDPRPLYTVAFSAOELWGGDNGKGDVVCVLEWPEYL  226

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## RESULT 5

S04473  
nitrile hydratase (EC 4.2.1.84) beta chain [validated] - Rhodococcus sp.  
C;Species: Rhodococcus sp.  
C;Date: 21-Nov-1998 #sequence\_revision 21-Nov-1998 #text\_change 27-Oct-2003  
C;Accession: S04473; S02071; S15072; S54106; S62096  
R;Ikehata, O.; Nishiyama, M.; Horinouchi, S.; Beppu, T.  
Eur. J. Biochem. 181, 563-570, 1989  
A;Title: Primary structure of nitrile hydratase deduced from the nucleotide  
sequence of a Rhodococcus species and its expression in Escherichia coli.  
A;Reference number: S04471; MUID:89276338; PMID:2659343  
A;Accession: S04473  
A;Molecule type: DNA  
A;Residues: 1-212 <IKE>  
A;Cross-references: UNIPARC:UPI0000000959; EMBL:X14668; NID:g46429;  
PIDN:CAA32798.1; PID:g46431  
A;Note: part of this sequence, including the amino end of the mature protein,  
was confirmed by protein sequencing  
R;Endo, T.; Watanabe, I.  
FEBS Lett. 243, 61-64, 1989  
A;Title: Nitrile hydratase of Rhodococcus sp. N-774. Purification and amino acid  
sequences.  
A;Reference number: S02070; MUID:89153549; PMID:2920826  
A;Accession: S02071  
A;Molecule type: protein  
A;Residues: 1-19 <END>  
A;Cross-references: UNIPARC:UPI0000172FF1  
R;Hashimoto, Y.; Nishiyama, M.; Ikehata, O.; Horinouchi, S.; Beppu, T.  
Biochim. Biophys. Acta 1088, 225-233, 1991  
A;Title: Cloning and characterization of an amidase gene from Rhodococcus  
species N-774 and its expression in Escherichia coli.  
A;Reference number: S15070; MUID:91159474; PMID:2001397  
A;Accession: S15072  
A;Molecule type: DNA  
A;Residues: 1-12;179-212 <HAS>  
A;Cross-references: UNIPARC:UPI0000172FF2; UNIPARC:UPI0000172FF3; EMBL:X54074  
A;Experimental source: strain N-774  
R;Bigey, F.; Chebrou, H.; Arnaud, A.; Galzy, P.  
submitted to the EMBL Data Library. March 1995